



## **Insanely Great | WIRED**

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## **An ode to an artifact - the computer that changed everything**

The shape is now a familiar component of our culture, as instantly recognizable as a Volkswagen or a Coke bottle. But in November, 1983, two months before its public unveiling, I had never seen anything like it. All I knew was its name - Macintosh - and that it was supposed to change the world.

Someone flicked the machine on, and I knew right away: it would change the world.

Until that moment, when one said a computer screen "lit up," some literary license was required. Unless the display was something from a graphics program or a game, the background on a monitor was invariably black, providing a contrast to the phosphorescent green (sometimes white) letters. Reading text off a computer screen had the feel of staring into the flat bottom part of those toy fortune-telling Eight Balls, where you'd ask the thing a question, turn it upside down, and a cryptic answer would dreamily drift into view. Everyone who used computers considered this one of the standard discomforts. It did hurt your eyes if you stared too long. But we were so accustomed to it that we hardly even thought to conceive otherwise. We simply hadn't seen the light.

On my visit to Cupertino that day - I was lucky enough to get a sneak preview - I saw many things I didn't know a computer could do. By the end of the demonstration, I began to understand that these were things a computer should do.

I also met the people who created that machine. They were groggy and almost giddy from three years of creation. Their eyes blazed with Visine and fire. They told me that with Macintosh, they were going to "put a dent in the Universe." Their leader, Steven P. Jobs, told them so. They also told me how Jobs referred to this new computer: Insanely Great.

Very few tools transform their culture. Macintosh has been one of them. In the decade since the Mac's debut Apple has sold over twelve million Macintoshes - the sales rate of PowerBooks alone is over a million per annum. Extending the Macintosh style of handling information even more broadly are many millions more computers that run systems that owe just about everything to Macintosh, notably Microsoft Windows. But these numbers only hint at Mac's impact.

Macintosh has become a symbol of a sort of intellectual freedom, a signifier that someone has logged into the digital age. On television you see a Mac on Seinfeld's desk. It peers at you in the background of authors'

photographs on book jackets. A newspaper reports breathlessly of producers conducting rapturous relationships with PowerBooks, of screenwriters sleeping with them. A magazine writes of a movie mogul who "grows rhapsodic" when he speaks of the device, and credits it for a career change and possibly even resolution of a mid-life crisis.

It took some time for people to see the light, but now it is everywhere: the ideas of Macintosh no longer belong to the future; they dominate the present. And they will shape the way we cope with the future. Macintosh has set a process into motion that will eventually change our thinking about computers, our thinking about information, and even our thinking about thinking. In terms of our relationship with information, Macintosh changed everything.

Sure, Macintosh isn't perfect - at the time of its release it wasn't even adequate. Certainly, Macintosh is but a step in a path that was probably inevitable, the trail leading to a Digital Nirvana where all information, all music, all pictures, all voices, all transactions, and all mental activity gets parsed into seething bits of ones and zeros. But Macintosh was the crucial step, the turning point. Before 1984 the concept of regular human beings participating in digital worlds belonged to the arcane realm of data processing and science fiction. After Macintosh, it began to weave itself into the fabric of everyday life. Macintosh provided us with our first glimpse of where we fit into the future.

Macintosh is actually a creative expression of dozens of people, beginning with an idea first expressed in 1945. Humans often anthropomorphize the objects they use, especially when they become fond of their interaction with those objects. Almost everyone who comes into contact with Macintosh becomes enchanted by its personality. But by and large people seem to regard the emergence of this personality as a sort of random phenomenon, something that just happens once the computer leaves the factory and acclimates itself to its new surroundings.

Macintosh does indeed have a distinctive demeanor, but this is a result of human effort and creativity - just as the traits of a character in a novel or film stem from the imagination of its author. It is essential to recognize that Macintosh's creators viewed themselves as artists. Those who conceive of that term in the traditional manner - painters in smocks, poets in garrets, auteurs in film school - have to stretch a bit to snare this concept. The Mac creators are emblematic of a new kind of artist spawned by the protean nature of the computer.

Macintosh makes it clear that we are now witnessing a first flowering of a new form of expression, where architects of technology create

interactive software that embodies their own, sometimes radical, visions. By using these products, we (most often unconsciously) experience those visions. They color our own thinking. We are transformed by them. Though the grammars, aesthetics, and even the jargon of this rather ephemeral art form have yet to be fixed, there is a quiet understanding among those working in the front lines of software design that they are participating in the most vital means of expression in our time.

In the Renaissance, a period frequently evoked by those working on or developing products for the Macintosh, painters undoubtedly agonized over the smallest details of their paintings. Every brush stroke told a story. In the early 1980s in Silicon Valley, furious aesthetic disputes were waged over the likes of how many times an item on a drop-down menu should blink when a user dragged the cursor over it. (The Macintosh artists decided on three, but to appease those insisting on a lesser increment, they granted users the option to adjust the number.)

Macintosh did not spring full blown from the corridors of Bandley 3, the low-slung building on Apple's "campus" where the Macintosh development team resided. Its technology was the culmination of decades of effort to drag computers - once known as hulking impenetrable beasts - into the realm of intimacy. The center of this initiative was once the lab of Douglas Englebart (who invented the window and the pointing device called the mouse), it then shifted to the computational Camelot of Xerox PARC (where Alan Kay and colleagues eliminated modes and popped up menus). But the ideas languished until Apple's broad daylight raid on PARC in late 1979, which resulted in the Lisa computer.

Lisa was the first to introduce the ideas of the graphical interface into the mainstream, and it featured loads of innovations, such as the direct manipulation of screen icons to actually do work. Yet Lisa flopped in the marketplace - it simply cost too much. It also ran very slowly. But its more subtle failing was its lack of attitude: Bill Atkinson, one of Lisa's key engineers, later admitted that he and his more daring colleagues "were afraid of our [corporate] customers - we didn't want to offend them.... Lisa has a certain beauty, but a certain sterility." A trivial but telling example of this self-censorship came with Lisa's trashcan icon - originally the drawing had a little fly buzzing around the can. This was deemed "too groddy" for the suits. The cumulative effect of this conscientious blandness denied the Lisa of a distinctive personality, which limited the fervor of its users.

Macintosh, on the other hand, was always linked with the artistry of its creators. The original idea came from Jef Raskin: First hired at Apple as director of publications, Raskin was an accomplished musician and a

former professor of visual arts. Raskin's choice of hardware designer was made on instinct - Burrell Smith, regarded as the Mozart of circuitry. When Apple co-founder Steve Jobs arrived at the project, elbowing Raskin aside, he brought along his own overwhelming sense of aesthetics.

"It goes back to the first brochure we ever did at Apple," he told me. "It was white, with a picture of an apple. Fruit, an apple. . .that simplicity is the ultimate sophistication. When you start looking at a problem and it seems really simple, you don't really understand the complexity of the problem. Then you get into the problem, and you see that it's really complicated, and you come up with all these convoluted solutions. That's sort of the middle, and that's where most people stop. . . . But the really great person will keep on going and find the key, the underlying principle of the problem - and come up with an elegant, really beautiful solution that works. That's what we wanted to do with Mac."

Everything, from the distinctive casing to the layout of the motherboard, had to meet Jobs's exacting visual standards. He even ruled on the look of the screen icons, rendered on a 32-x-32-pixel grid by Susan Kare, a graphic designer whose business card read, "Macintosh Artist." Given they had to meet that standard, the Mac artists were free to design a computer that fit their own woolly sensibilities. They festooned the machine with all sorts of loony filigrees. When the computer came on, the first thing someone would see was a tiny self-portrait of the Mac, with a smiling face to indicate that it had successfully performed a memory scan and all its chips were in order. When someone set the alarm in the internal clock, they would click on a picture of a rooster. And when the machine crashed - as it did, too often - a dialog box would appear with a picture of a bomb. (This image actually made some people go berserk with rage - in their view, not only was the computer failing them, but rubbing their faces in it!)

The same attention was devoted to maintaining a consistent appearance in the interface, one which would extend to every program that ran on the Mac. Once the basic topography of windows, menu bar, and desktop iconography was established, the Mac artists sweated the details, refining things like the look of the title bar (the border on top of a window) giving it distinctive pinstripes. This was far more than a cosmetic makeover. It was partly a careful accumulation of nitpicks - frills, pinstripes, curlicues, and the gray tint in the scroll bars - which established what has been called the "look and feel" of the Mac: the Macintosh religion. Compared to the phosphorescent garbage heap of DOS - an intimidating jumble of letters and commands - the world one entered into when flicking on a Macintosh was a clean, well-lit room, populated by wry

objects, yet none so jarring that it threatened one's comforting sense of place.

The Mac Team's synapses still fired to the cadence of the 1960s; most of them had managed to catch the tail end of that social revolution and were still hungry enough to want more. Skirting the lip of hubris, they believed that their efforts could cause a reprise of that revolution - engineering itself would explode into art. How could the Lisa artists compete with the cubists, the surrealists, the abstract expressionists of Macintosh?

At the same time, they held a sharp focus on the idea that their audience - people who may or may not regard computers with a measure of terror - would use Macintosh to devise artifacts that reflected the same aesthetic quality. Though artists would, of course, gravitate to the Mac, the hope was that the Mac would make artists of everyone. Because it was just as easy to create graphics on this machine as it was to type - the Mac literally refused to make distinctions between text and graphics - this utopian ideal was considered within the grasp of Macintosh. "Until now, the world of art has been a sacred club - like fine China," Bill Atkinson told me. "Now, it's for daily use. We're going to make it so easy to be creative that people will have no excuse not to confront their own artistic ability."

Ten years later, the results are apparent. "I think Macintosh accomplished everything we set out to do and more, even though it reaches most people these days in Windows," says Andy Hertzfeld, one of the original Macintosh software wizards. "We loved the Apple II. And we loved art. So we made the Mac a descendant of the Apple II, and a computer for artists - for writers and musicians. We never doubted that the way we did things would catch on. The key is that we kept the Apple II spirit, the crazy irreverence, the anti-authority flavor. Macintosh tells people as they use it, 'You don't have to take things too seriously.' It was great to make a product that has a rebel heart."

The personal digital assistants and pocket communicators we see today are successors to Macintosh aimed at audiences that would ordinarily never venture near a computer. The next generation of television cable boxes as envisioned by Microsoft and its competitors has a Windows-like point-and-click interface. Our remote controls will be pointing devices, allowing us to move the cursors over menus with entries like Nightline or Casablanca. Farther into the future, wearing eye-phone goggles and other virtual reality apparel, the menus may appear before us in space, and the pointing device will be...our fingers. Sounds strange, but once I actually stood in a NASA laboratory and used my data-gloved hand to invoke pull-

down menus that shimmered before me like ghosts, and then to choose the commands from these. It was as if I stepped into the Macintosh metaphor.

Ultimately, we can expect to lose count of Macintosh's successors. Long after its departure, Macintosh will be remembered as the product that brought just plain people, uninterested in the particulars of technology, into the trenches of the information age - and did it with an unforgettable artistic flourish. In the process it standardized the crucial bridge from metaphor to reality.

Behold, a dent in the universe.

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